IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

INTELLECTUAL VENTURES I LLC and INTELLECTUAL VENTURES II LLC,	)	
Plaintiffs,	)	**C.A. No. 4:24-cv-00980-ALM**
v.	)	
	)	**JURY TRIAL DEMANDED**
AMERICAN AIRLINES, INC.	)	
Defendant.	)	

PLAINTIFFS' OPPOSITION TO DEFENDANT'S PARTIAL MOTION TO DISMISS

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I. INTRODUCTION[1]

Through its Motion to Dismiss ("Motion"), Defendant American Airlines, Inc. ("American") is strategically targeting four of six patents (and separately moves to sever and stay IV's case as to the other two patents). American's Motion is deficient and should be denied for various reasons, including because (1) the '582 Patent and the '785 Patent are patent-eligible under § 101, are not directed to an abstract idea under *Alice*, and include claims that recite an inventive concept; (2) IV has pled sufficient factual allegations to support its contentions of direct and indirect infringement for all asserted patents, including the '844 Patent and '722 Patent; and (3) IV has sufficiently pled unauthorized use of its asserted cloud-based patents by identifying American activity of non-licensed uses of those patents.

II. BACKGROUND

On November 2, 2024, Plaintiffs Intellectual Ventures I LLC and Intellectual Ventures II LLC (collectively, "IV") filed its Complaint against American alleging infringement of six patents. *See generally* Dkt. 1. Two of the six patents generally relate to wireless technologies and are not relevant to American's Motion to Dismiss. The other four patents, *i.e.*, U.S. Patent Nos. 8,332,844 ("'844 Patent"); 8,407,722 ("'722 Patent"); 7,949,785 ("'785 Patent"); and 7,257,582 ("'582 Patent") (collectively, "Cloud Patents"), relate to cloud technologies.

On January 27, 2025, American filed its Motion, alleging that the '785 Patent and the '582 Patent recite unpatentable subject matter under 35 U.S.C. § 101, and that IV's direct and indirect infringement claims for the Cloud Patents are implausible. Mot. at 4-29. As described below, each of American's arguments are wrong for multiple reasons.

[1] Submitted herewith is the March 19, 2025, declaration of Jonathan K. Waldrop, with exhibits ("Ex. __").

III. ARGUMENT

A. IV Sufficiently Pled Plausible Unauthorized Use of Its Cloud Patents.

IV alleges that American infringes each of the Cloud Patents based on American's use of cloud-based technologies, including Kubernetes, Spark, Hadoop, Kafka, and Docker (*see, e.g.*, Dkt. 1 at ¶¶ 23, 37, 53, 69, 117) and IV expressly incorporated factual allegations made in claim charts attached to the Complaint. *Id*. at ¶¶ 48, 64, 80, 128. Each of those claim charts identify specific evidence that American uses non-licensed clouds in supporting its cloud-based technology, including its application software and mainframes and servers. *See, e.g.*, Dkt. 1-11 at 3 ("American has announced *cloud migration of legacy technology* and efforts to *modernize its mainframes and servers*") (emphasis added); *see also* Dkt. 1-9 at 2; Dkt. 1-10 at 2; Dkt. 1-14 at 2; Dkt. 1-15 at 2. This is more than sufficient at the pleading stage. *See AlexSam, Inc. v. Aetna, Inc.*, 119 F.4th 27, 35 (Fed. Cir. 2024) ("an adequate complaint need only contain 'some factual allegations that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim'") (citation omitted). American's Motion ignores such supporting evidence, including evidence of non-licensed cloud use that does not fall within the scope of any potential license. Accordingly, American's argument that IV has not plausibly pled unauthorized use of the Asserted Patents is meritless and should be rejected.

B. IV Sufficiently Pled Plausible Pre-Suit and Post-Suit Indirect Infringement For the Asserted Patents.

IV has sufficiently pled pre-and post-suit indirect infringement. To establish indirect infringement, there must be a showing of induced or contributory infringement. 35 U.S.C. §§ 271(b)–(c). Both types of infringement require that the accused infringer had actual knowledge or was willfully blind to the existence of the patents-in-suit. *Neonode Smartphone LLC v. Samsung Electronics Co., Ltd.*, No. 6:20-cv-00507-ADA, 2023 WL 5426743, at *2 (W.D. Tex. June 27,

2023). For induced infringement, a plaintiff must plead that the defendant: (1) had actual knowledge of the patent; (2) knowingly induced a third-party to infringe the patent; and (3) had the specific intent to induce infringement. *Id*.

IV has sufficiently pled these elements. Specifically, American has had notice of its infringement of the Cloud Patents since no later than November 1, 2024. Dkt. 1 at ¶¶ 42, 58, 74, 122. Further, in its Complaint, IV identified third parties, including American's partners, vendors, and customers, that, on information and belief Southwest causes to infringe one or more claims of the Cloud Patents. Dkt. 1 at ¶¶ 43-47, 59-63, 75-79, 123-27. As to intent, IV has identified evidence of American's use of the accused technologies for certain products and services and noted that American "offers products and services to its customers and third parties and/or employees that are associated with backend functionality" that hosts the accused technologies. Dkt. 1 at ¶¶ 43, 59, 75, 123; Dkt. 1-9 at 2-5; Dkt. 1-10 at 2-3; Dkt. 1-11 at 2-3; Dkts. 1-13 and 1-14 at 2-4. IV also plausibly pled contributory infringement. *Id*.; *see also* Dkt. 1 at ¶¶ 45, 61, 77, 125.

In support of its argument that IV has not sufficiently pled indirect infringement, American alleges that "it is an *airline*, not a seller of cloud computing software." Mot. at 9 (emphasis in original). That is of no moment. There is no dispute that American uses the accused technologies. *See generally* Mot. at 2-29. What is in dispute is whether American products and services (offered to its customers and third parties) that use the accused technologies, including Docker, Kubernetes, Spark, Kafka, and Hadoop, infringe. IV contends the use of these products and services by, for example, American's customers, infringes one or more claims of the Cloud Patents, and has pled facts in support of its contentions. *See generally* Dkts. 1-9, 1-10, 1-11, 1-14, 1-15; *see also* Dkt. 1 at ¶¶ 43-47, 59-63, 75-79, 123-27. Further, the accused technologies are cloud-based technologies and American does not appear to publicly disclose how it uses these technologies, including

disclosing what products and services specifically use them. *Bell Semiconductor, LLC v. MaxLinear, Inc.*, No. 22-cv-1268-H-KSC, 2023 WL 174973, at *6 (S.D. Cal. Jan. 12, 2023) ("But reverse engineering or review of non-public information is not necessary to put Defendant on notice of the infringement allegations.") (citation omitted); *see also BioMérieux; Rally AG LLC v. Apple, Inc.*, No. 1:23-cv-1106, 2024 WL 4836540, at *10 (D.Del. Nov. 20, 2024) ("Because Plaintiff is not required at the pleadings stage to have full knowledge of how [the accused product] works, these well-pleaded allegations drawn from Plaintiff's 'information and belief' are sufficient for Plaintiff's infringement claim to survive a motion to dismiss."); *DermaFocus LLC v. Ulthera, Inc.*, 201 F. Supp. 3d 465, 469 n.7 (D. Del. Aug. 11, 2016) ("And, indeed, it may not be possible for a plaintiff to describe its case-in-chief with particularity at the outset of litigation, without access to the accused method, the accused apparatus for reverse engineering, or confidential data such as source code."). IV has sufficiently and plausibly pled facts supporting its contentions based on publicly available information, which is all that is required at this stage. *Id*.

C. IV Sufficiently Pled Plausible Infringement of the '844 Patent.

IV contends that American's non-licensed use of Docker technology infringes at least claim 7 of the '844 Patent. *See generally* Dkt. 1-9. However, American alleges that IV has failed to plead sufficient facts to support its argument that American's use of Docker infringes the limitation that recites "said leaf images including only additional data blocks not previously contained in said root image and changes made by respective compute nodes to the blocks of the root image." Mot. at 14-17.

As described below, American's argument fails for at least three reasons: (1) IV has provided factual evidence in support of its infringement contentions that American does not address in its Motion; (2) American relies on a vague claim construction position based solely on attorney argument that is not supported by facts or evidence; and (3) there is no heightened

standard for IV to plead plausible facts of infringement for this limitation because American argues that the alleged point of novelty is a different limitation.

In support of its Motion, American relies heavily on *Bot M8 LLC v. Sony Corp. of Am.*, 4 F. 4th 1342 (Fed. Cir. 2021) to argue that the "test" from that decision requires a higher level of detail in pleading patent infringement. *See generally* Mot. at 10-22. There is no such test. Rather, *Bot M8* advocates a flexible inquiry to determine whether a plaintiff has pleaded sufficient factual allegations, and that the amount of factual detail required "will also vary." *See AlexSam*, 119 F.4th at 39. This flexible analysis means that there is no one-size-fits-all test, including for software components, as claim elements will recite different requirements. Thus, American's argument that IV must plead facts to a heightened standard (comparable to infringement contentions) should be rejected. *See id.* at 36 ("[a] plaintiff is not required to plead infringement on an element-by-element basis. Instead, it is enough that a complaint place the alleged infringer on notice of what activity ... is being accused of infringement.") (citation omitted). Indeed, the court in *Bot M8* partially *overturned* a grant of a motion to dismiss because the lower court "simply required too much." *Bot M8*, 4 F. 4th at 1353. Regardless, to the extent it even applies, IV has satisfied *Bot M8*, as described below.

1. IV Sufficiently Pled Plausible Infringement of Claim 7 of the '844 Patent.

For the '844 Patent, IV contends that American's use of Docker technology infringes at least claim 7. Dkt. 1 at ¶¶ 37-48. To support its allegations, IV included with the Complaint a claim chart comparing each limitation of claim 7 of the '844 Patent to Docker. *See generally* Dkt. 1-9. That claim chart includes an element-by-element analysis of how American's use of Docker infringes at least claim 7 of the '844 Patent and cites factual support, including articles describing

Docker in detail, including how it works (as published on docker.com and other sources) that describe Docker in technical detail. *Id*.

For example, for the limitation of claim 7 that recites "storing blocks of a root image of said compute nodes on a first storage unit," IV has described that "Docker stores blocks of a root image including a collection of read-only layers in a Docker image in the Docker registry [and that] an image stores blocks of a root image, such as an … operating systems software and other applications and software," and cites to specific evidence that shows both the read-only layers and thin read/write layers that are relevant to other limitations recited in claim 7, as well as the data that is stored in each of these layers. Dkt. 1-9 at 8-14 (citing to various websites at web domain docker.com in support of its contentions). This level of detail demonstrates and confirms that IV is not simply reciting claim elements, but instead it has pled more than sufficient "'fact[s] to raise a reasonable expectation that discovery will reveal' that the defendant is liable for the misconduct alleged." *In re Bill of Lading Transmission & Processing Sys. Pat. Litig.*, 681 F.3d 1323, 1341 (Fed. Cir. 2012) (citing *Atlantic Corp. v. Twombly*, 550 U.S. 544, 556 (2007).

IV has also provided corresponding descriptions and evidence for the other limitations recited in claim 7. *See generally* Dkt. 1-9. Thus, IV's claim charts do not merely parrot the claim language (as American alleges). Rather, IV's element-by-element analysis goes well beyond what is required at the pleading stage. *See AlexSam*, 119 F.4th at 38–42 ("A plaintiff is not required to plead infringement on an element-by-element basis"). By providing factual support for how American's use of Docker infringes each limitation of claim 7 of the '844 Patent, IV has, at a minimum, placed American on notice of what activity is accused of infringement, *i.e.*, American's use of specific Docker features. This is more than sufficient at the pleading stage. *See id.* at 35 ("it is enough that a complaint place the alleged infringer on notice of what activity … is being accused

of infringement" and "an adequate complaint need only contain 'some factual allegations that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim.'") (*citing Bot M8*, 4 F.4th at 1353).

2. American's Argument Relies on a Claim Construction Position that is Improper to Rule on at the Motion to Dismiss Stage.

American's argument that IV has failed to plausibly plead facts supporting infringement for the '844 Patent relies on an unannounced and improper claim construction position, which the Court should reject. For the limitation that reads "said leaf images including only additional data blocks not previously contained in said root image," American appears to argue that there is a difference between a file and a block and cites two decisions in support (neither of which involved the '844 Patent). For the first decision, *Veritas Techs. LLC v. Veeam Software Corp.*, 835 F.3d 1406, 1410 (Fed. Cir. 2016), American recites a portion of that decision that reads "a person having ordinary skill in the art would understand that … blocks often make up a file." Mot. at 17. American offers no explanation of what the relevant art is and what is the level of ordinary skill in the unexplained art, offering instead only the *ipse dixit* of its counsel. This should be rejected, not least because it is not tethered to the '844 Patent. American's reliance on *Quanergy Sys. v. Velodyne Lidar USA, Inc.*, 24 F.4th 1406, fn. 7 (Fed. Cir. 2022) is also misplaced. American cites a footnote in that decision for the proposition that "[a] file is essentially a named collection of blocks, which contain all of the data of the file." Mot. at 17. Claim 7 does not recite the language "file," and *Quanergy* involved a different patent involving different technology involving a different claim term being construed (that did not include the language "data blocks"). *See Quanergy*, 24 F.4th at 1415 (discussing a PTAB construction of the limitation "starting a restore of a set of files"). American does not—because it cannot—cite any authority for construing a claim term separate and apart from the patent itself. Further, claim 7 recites *data* blocks, not just blocks.

American argues that no claim construction is needed to resolve this dispute, citing to the '844 Patent specification at column 5 lines 49 to 58. Mot. at 17. That portion of the specification relates to *an* embodiment of the '844 Patent. Indeed, the specification portion relied upon by American begins by describing an "example." Dkt. 1-1 at 5:51. Even assuming American's implicit construction of "data blocks" is correct, its argument fails because it construes only a portion of a limitation without considering the limitation as a whole, as shown in the annotated screenshot below (with American's portion construed in yellow and the surrounding claim language in red).

storing leaf images for respective compute nodes on respective second storage units, said leaf images including only additional data blocks not previously contained in said root image and changes made by respective compute nodes to the blocks of the root image, wherein said leaf images of respective compute nodes do not include blocks of said root image that are unchanged by respective compute nodes; and

Id. at 11:31-38.

Further, where a claim construction dispute exists, resolution at the pleadings stage is inappropriate. *See Nalco Co. v. Chem-Mod, LLC*, 883 F.3d 1337, 1347-50 (Fed. Cir. 2018) ("Resolution of that dispute, even if part of the record that can be considered, is particularly inappropriate in the Rule 12(b)(6) context. … It is not appropriate to resolve these disputes, or to determine whether the method claimed … should be confined to the preferred embodiment, on a Rule 12(b)(6) motion, without the benefit of claim construction."). This is especially true here, where American proposes a vague construction that does not consider properly the '844 Patent specification and surrounding claim language.

3. American Has Not Shown that the *Bot M8* Decision Imposes a Heavier Pleading Burden on IV.

American argues that, under *Bot M8*, IV must plead facts with a "higher level of detail" that American practices the '844 Patent's alleged point of novelty. Mot. at 13. American appears to argue that the alleged point of novelty for claim 7 is the limitation that recites "wherein said leaf images of respective compute nodes do not include blocks of said root image that are unchanged by respective compute nodes." *See* Mot. at 12 (arguing that the "claims' alleged point of novelty" is the limitation "wherein said leaf images of respective compute nodes do not include blocks of said root image that are unchanged by respective compute nodes."). But American then argues that IV has not met its pleading burden for a *different* limitation, i.e., "said leaf images including only additional data blocks not previously contained in said root image." Mot. at 17. In other words, American says the point of novelty of claim 7 of the '844 Patent is one limitation and then argues that IV has failed to meet its burden for a *different limitation altogether*. American's confused argument fails on this basis alone.

Even assuming *arguendo* IV must plead facts with a higher level of detail for the point of novelty limitation, it has done so. *See* Sections III.C.1, III.C.2, *supra*; *see also* Dkt. 1-9 at 28-31. In the claim chart attached to the Complaint (and incorporated by reference into the Complaint), IV identifies specific evidence from the docker.com website and describes that "Docker contains a writable layer using copy on write, leaving unchanged image data in their original image layers" and that "when a container is created or started, a thin writable container layer is added on top of the other layers, and any changes the container makes to the filesystem are stored in this layer, whereas any files that the container does not change to not get copied into this layer." *Id*. at 28-29. Thus, IV has clearly done more than "'recit[e] the claim elements" and 'conclud[e] that the accused

product has those elements.'" Mot. at 10. Further, IV has cited *additional* evidence in the '844 Patent claim chart to the Complaint that American simply ignores in its Motion. Dkt. 1-9 at 28-31.

To the extent American argues that the novelty of claim 7 of the '844 Patent includes the limitation "leaf images comprising only changes made by respective compute nodes to the blocks of said root image," Mot. at 12-13 (emphasis in original), this is inconsistent with the '844 Patent file history and the plain language of claim 7. During prosecution, the Application amended then-pending claim 7 to include the limitation reflected in the annotated screenshot below.

> 7. (Currently amended) A method for providing data to a plurality of compute nodes, comprising:
>
> storing blocks of a root image of said compute nodes on a first storage unit;
>
> storing leaf images for respective compute nodes on respective second storage units, said leaf images comprising additional data blocks not previously contained in said root image and changes made by respective compute nodes to the blocks of the root image, wherein said leaf images of respective compute nodes do not include blocks of said root image that are unchanged by respective compute nodes; and
>
> caching blocks of said root image that have been accessed by at least one of said compute nodes in a cache memory.

Ex. A at 3. The pending application was then subsequently allowed. Nowhere in claim 7 is the language cited by American found. Rather, as noted in the screenshot above, the language added to claim 7, prior to allowance, is "wherein said leaf images of respective compute nodes do not include blocks of said root image that are unchanged by respective compute nodes."

4. American's Other Arguments Are Not Persuasive.

American makes several other arguments in support of its Motion, including that IV's allegations are "barebones," such that IV has failed to satisfy the three-factor test from *Bot M8*

(Mot. at 10, 14), and that IV has failed to identify the Accused Products (*id*.). Those arguments also fail.

First, IV has pled specific facts of infringement for the '844 Patent, including an element-by-element analysis of claim 7 with factual evidence cited in support of its contentions, *supra*, Sections III.C.1, III.C.2, and thus American's argument is baseless. Further, a "statement [for relief] need only 'give the defendant fair notice of what the ... claim is and the grounds upon which it rests.'" *Bot M8*, 4 F.4th at 1353 (quoting *Erickson v. Pardus*, 551 U.S. 89, 93 (2007) (quoting *Twombly*, 550 U.S. at 555)). IV's contentions in the Complaint, including the claim charts incorporated by reference, provide specific notice of the accused products and services and the manner in which they infringe. Contrary to American's arguments, nothing more is required by *Bot M8*.

For the second argument, IV identified the specific American products that infringe, *i.e.*, "American systems and services *that utilize Docker*." Dkt. 1-9 at 2 (emphasis added). American does not dispute that it uses Docker technology. Further, information regarding American's use of Docker and which products specifically use Docker is not publicly available. Regardless, IV contends that American's use of Docker, for *any* product, infringes, to the extent it does not involve a licensed use. IV has put American on sufficient notice of its infringement for its undisputed use of Docker and anticipates that discovery will result in identification of American products and services that use Docker technology.

D. IV Sufficiently Pled Plausible Infringement of the '722 Patent.

IV contends that American's use of Kafka technology in its products and services infringe at least claim 14 of the '722 Patent. Dkt. 1 at ¶¶ 23, 64. American cites no evidence showing that it does not, in fact, use Kafka. *See generally*, Mot. at 17-22. In contrast, IV cites evidence of LinkedIn profiles from *American employees* that describe their use of Kafka within their roles at

American. *See* Dkt. 1-10 at 2. American does not even address—let alone rebut—this evidence. Accordingly, there cannot be any dispute that American uses Kafka technology.

1. IV Sufficiently Pled Plausible Infringement of Claim 14 of the '722 Patent by American's Use of Kafka.

For the '722 Patent, to support its infringement allegations, IV included with the Complaint a claim chart comparing each limitation of claim 14 of the '722 Patent to Kafka. *See generally* Dkt. 1-10. That claim chart includes an element-by-element analysis of how American's use of Kafka infringes at least claim 14 of the '722 Patent and cites factual support, including articles from the Apache Kafka website describing how Kafka works and other sources that describe Kafka in technical detail. *Id*. For example, for the limitation of claim 14 that recites "providing, using a processing device of an input source, a data representation to a client device," IV has described that "Kafka includes a Producer API that allows applications to publish streams of records, and a Consumer API that allows applications to subscribe to one or more topics and process streams of records products to them." Dkt. 1-10 at 5-18. IV has also provided supporting evidence, including highlighting specific disclosures that correlate to the elements recited in this limitation. *Id.* In this instance, IV has identified Producers (*e.g.*, processing device of an input source) that provide streaming data (*e.g.*, a data representation) to Consumers (*e.g.*, a client device). This level of detail is merely an example and confirms that IV has pled more than sufficient "'fact[s] to raise a reasonable expectation that discovery will reveal' that the defendant is liable for the misconduct alleged." *See In re Bill of Lading Transmission & Processing Sys. Pat. Litig.*, *supra*. IV has also provided corresponding descriptions and evidence for the other limitations recited in claim 14. *See generally* Dkt. 1-10.

Thus, IV's claim charts do not merely parrot the claim language. Rather, they provide an element-by-element analysis that goes well beyond what is required at the pleading stage. *See*

AlexSam, supra. By providing factual support for how American's use of Kafka infringes each limitation of claim 14 of the '722 Patent, IV has, at a minimum, placed American on notice of what activity is accused of infringement, *i.e.*, American's use of specific Kafka features. That is sufficient. *See id*. at 35 ("it is enough that a complaint place the alleged infringer on notice of what activity … is being accused of infringement" and "an adequate complaint need only contain 'some factual allegations that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim'") (citation omitted).

American alleges that IV's contentions are akin to those of the plaintiff in *Chapterhouse, LLC v. Shopify, Inc.*, No. 2:18-CV-00300-JRG, 2018 WL 6981828 (E.D. Texas Dec. 11, 2018). In *Chapterhouse*, the plaintiff cited solely to screenshots, without explanation, in support of its allegations that the defendant infringes at least one claim of the patents at issue:

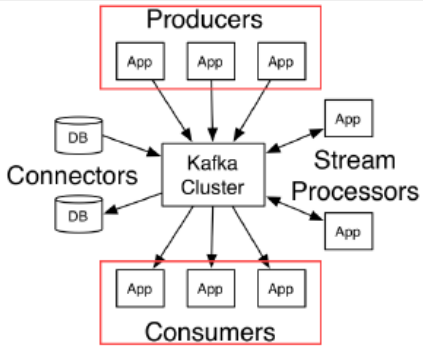
> For example, the preamble of Claim 1 of the '087 Patent states "A system for generating de-identified electronic receipts, comprising." (Complaint, Dkt. No. 1 ¶ 13.) The Complaint then alleges "14. The Shopify System is a system for generating de-identified electronic receipts. See, e.g., Server Information; and Sales Reports. An example is illustrated below," (Id. ¶ 14,) followed by two screenshots. Such a statement, on its own, is a mere conclusory statement, and in order to pass the Iqbal/Twombly standard, there must be accompanying factual allegations. There are none here.

Chapterhouse, 2018 WL 6981828, at *2. This is inapposite to IV's contentions that provide significantly more factual detail. IV does not merely recite claim language but instead provides specific description for each limitation that provides context for how American's use of Kafka infringes the limitations of claim 14, as shown above and below. Indeed, American admits that a plaintiff need not cite source code in support of infringement allegations. Mot. at 20 ("[a]lthough the patent owner need not provide source code, …") (citation omitted). Yet IV has nonetheless done that. *See, e.g.*, Dkt. 1-10 at 8, 10. Further, IV has highlighted specific portions of evidence that support its description of American's infringement of claim 14. *See, e.g., id*. at 10.

American also argues conclusory that IV has failed to plead sufficient facts for infringement for limitations 14[a], 14[b], 14[c], and 14[d] of claim 14. Mot. at 21-22. American's arguments fail out of the gate because IV need not provide infringement contention levels of detail at the pleading stage, as this is not the standard. *See Solocron Educ., LLC v. Healthstream, Inc.*, Case No. 2:16-cv-16-JRG, 2016 WL 9137458, at *2 (E.D. Tex. June 7, 2016) ("Rule 8 requires that a claim for relief need only contain 'a short and plain statement of the claim showing that the pleader is entitled to relief.' Infringement contentions, as a general matter, are much more than a 'short and plain statement.' Initial infringement contentions may, in some cases, be several hundred pages, if not more. Far from a 'short and plain statement,' this level of specificity is tantamount to a legal exposition of the claimant's infringement theories.") (citations omitted).

Limitation 14[a]. American argues that IV fails to plead facts relating to certain elements, including a "processing device of an input source" and a "node in a routing network." Mot. at 21. For this limitation, IV describes that Kafka "includes a Producer API that allows applications to publish streams of records, and a Consumer API that allows applications to subscribe to one or more topics and process streams of records produced to them," and cites corresponding evidence (that is annotated for emphasis) in support. Dkt. 1-10 at 6. IV further provides a screenshot of an exemplary network with a Kafka cluster and Producers and Consumers, as shown below.

U.S. Patent No. 8,407,722 (Claim 14)	
Claim(s)	**Example American Count 2 Systems and Services**



Source: https://kafka.apache.org/20/documentation.html

Kafka Producers publish records to a Kafka cluster.

9

Dkt. 1-10 at 9. Thus, IV has provided evidence of a "processing device of an input source," for example a Producer, and a "node in a routing network," for example a Consumer as shown in the exemplary network in the screenshot above. IV has further provided such detail and evidence for the other limitations that American alleges are deficient. *Id.* at 6-18. American's arguments that IV has not provided an express mapping with significant detail are thus meritless (and seek to impose a pleading standard well beyond what the law requires). *See Solocron, supra*.

Limitation 14[b]. For this limitation, American argues that IV has failed to plead sufficient facts for the limitation "sending … an update message to the routing network" and that IV has not identified a "routing network." Mot. at 21. As noted above for limitation 14[a], IV identified specific evidence of a "routing network," for example a network with a Kafka cluster and Producers and Consumers. In the '722 Patent claim chart, IV described that "Kafka Producers can use the Producer API to send streams of data to topics in a Kafka cluster," and further highlighted

evidence of a "KTable" that describes a KTable as an "abstraction of a changelog stream, where *each data record represents an update*." These are mere examples of the specific evidence that IV has identified to plead plausible infringement of claim 14 of the '722 Patent, evidence which American ignores in its Motion and feigns to not understand (in order to argue that the '722 Patent should be dismissed from this case). American's argument should thus be rejected.

Limitation 14[c]. American argues that IV fails to plead facts relating to certain elements, including a "gateway device at the routing network" and "route the update message to the node, having the node type, at the routing network." Mot. at 22. In the claim chart, IV describes that "Kafka clusters include Kafka brokers, where Kafka producers push records to Kafka topics via a broker [and] Kafka Consumers pull records off a Kafka topic," and cites evidence to support this statement. Dkt. 1-10 at 23-29. Thus, IV has identified an example of a gateway device (*e.g.*, a broker) at the routing network and routing an update message to a node (*e.g.*, a Consumer node) having the node type at the routing network.

American also argues (without explanation) that IV has not plead facts supporting plausible infringement for limitations 14[d] and 14[e]. But IV has provided at least a commensurate level of description and evidence in support of its infringement allegations as other limitations recited in claim 14. Dkt. 1-10 at 30-37. American's conclusory arguments should be rejected.

2. American Fails to Identify the Point of Novelty in Claim 14 of the '722 Patent Under Its Own *Bot M8* Analysis.

While American argues (erroneously) that *Bot M8* requires that IV plead facts with a "higher level of detail" that American practices the '722 Patent's alleged point of novelty, Mot. at 20, American *never identifies the novel claim limitation*. *See* Mot. at 19-20. Rather, American merely cites to portions of the '722 Patent specification, including column 3 lines 4 to 5, column 3 lines 9 to 21, and column 4 lines 33 to 34, and conclusorily argues that IV must plead greater

facts as to some unknown limitation of claim 14 of the '722 Patent. Indeed, American argues that "one" alleged point of novelty for claim 14 "includes updating live objects at client devices by using nodes in a routing network," Mot. at 19, but it is unclear whether it alleges this is *the* point of alleged novelty, or some other limitation in claim 14 is the point of novelty. American then notes another potential point of novelty in the limitation that recites "identify a category of the update message based on the input source." *Id*. American's argument thus fails because it does not connect the dots between claim 14 and the alleged point of novelty.

E. The '582 Patent is Patentable Under 35 U.S.C. § 101.

As described below, the '582 Patent recites patentable subject matter under § 101, is not abstract, and recites an inventive concept. Further, at a minimum, there are plausible factual disputes that requires denial of American's motion. *See Cooperative Ent., Inc. v. Kollective Tech., Inc.*, 50 F.4th 127, 130 (Fed. Cir. 2022) ("[P]atent eligibility may be resolved at the Rule 12 stage only if there are no plausible factual disputes after drawing all reasonable inferences from the intrinsic and Rule 12 record in favor of the non-movant.").

1. The '582 Patent Is Not Abstract

The claims of the '582 Patent are directed to a method for parallelization of data processing tasks, improving on then-current technology by increasing the speed of execution of processes and balancing the loads of computer resources during execution.

Specifically, claim 1 recites:

> 1. A method of effecting on a preexisting input file a computer-executable process comprised of a plurality of subtasks, the method comprising the steps of:
>
> (a) automatically determining file allocation and logically subdividing records of said input file into a plurality of partitions;
>
> (b) distributing descriptions of all of said partitions to each of a plurality of subtask processors

> c) simultaneously executing at least a respective one of the subtasks of the computer-executable process in each of at least some of said processors on a respective one of the partitions with each subtask reading and processing the respective partition so as to process the respective partition and produce respective subtask output and;
>
> d) thereafter repeating step (c) in at least some of the subtask processors each with another unprocessed partition on a first-come/first-served basis; and
>
> (e) generating at least one output combining all of the subtask outputs and reflecting the processing of all of said subtasks.

The claim is directed to an improvement in data processing using parallelization, *i.e.*, using multiple computers or computing resources to perform a given task. As described in the specification, a key aspect of this parallelization is the load balancing of tasks and data among the available resources:

> [I]n contemporary environments, much can be gained by the parallelization of some processes and their distributed execution across all available computing resources in a way that both speeds the execution of the whole process and balances the load the various computers are subjected to.

Dkt. 1-7 ('582 Patent) at 1:33-38. Further, the specification explains that the invention of the '582 Patent allows for the use of multiple computers, including "heterogeneous" computers, to optimize execution of processes:

> The principal object of the present invention is to enable the decomposition of a certain type of linear processes that currently use a single computer, into equivalent parallel processes that can efficiently use any number of potentially heterogeneous computers, taking the available capacity of each of these computers into account while optimizing execution. A more general object is to improve processing efficiency of certain processes. It is also an object to obtain better processor utilization.

Id. at 1:48-57. These technical techniques disclosed in the '582 Patent specification and captured by the claims (including claim 1) provide benefits to technical environments. *See id.* at 2:30-38 (describing improvements to software processes because of processing parallelization including

"a sort process, a statistical analysis process, a report creating process or a database query or a combination thereof."). Thus, the claims of the '582 Patent recite a specific technological solution to problems unique in computer processing. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016) ("our conclusion … is bolstered by the specification's teachings that the claimed invention achieves other benefits over conventional [technology]"); *Intell. Ventures II, LLC v. FedEx Corp.*, No. 2:16-CV-00980-JRG, 2018 WL 7823098, at *4 (E.D. Tex. May 10, 2018) ("specific technologic modifications to solve a problem or improve the functioning of a known system generally produce [non-abstract] patent-eligible subject matter.").

American primarily rests its argument on the facially incorrect assertion that the claim provides "no specific direction (let alone a specific technological improvement)" for the steps of the claimed method.[2] Mot. at 24. But the improvement claimed by the '582 Patent (and captured in claim 1) is plain from the face of the patent. *See supra*, Section III.E.1. Nor do the cases cited by American provide any basis to find the '582 Patent patent-ineligible. In *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017), the court expressly stated that the patentee's proposed claim constructions failed to "indicate how the claims are directed to a scalable network architecture that itself leads to an improvement in the *functioning* of the system." In other words, even applying the patentee's proposed claim construction, the patent claims simply were not directed to an improvement in function. Similarly, in *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017), the court held that the asserted claim did not "claim a software method that improves the functioning of a computer," but rather merely an abstract process performed by a computer. That is not the case here, where the claim is directed

[2] American's arguments regarding the '582 patents' dependent claims are conclusory at best and consist of attorney argument that the additional limitations are "abstract" with no explanation of what this supposed abstractness is.

to a specific way of improving the functioning of distributed execution of computer processes.[3] *See* Dkt. 1-7 ('582 Patent) at 1:48-57.

The claims of the '582 Patent are better analogized to those which the Federal Circuit and other district courts have found patent eligible. For example, in *SRI Int'l Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1303-04 (Fed. Cir. 2020), the Federal Circuit found patent-eligible claims that modified "the normal, expected operation of a conventional computer network." And the court in *Altair Logix LLC v. Netgear, Inc.* was presented with a similar situation where the defendant ignored that the patent itself described how the claimed invention "improve[d] the way computers work." No. CV 20-1004-MN-CJB, 2021 WL 6424910, at *6 (D. Del. Dec. 6, 2021). Notably, the patent at issue in *Altair Logix* required multiple processing units working together to provide the benefits of "remov[ing] redundancy and reduc[ing] cost."[4] *Id.* at *4.

2. The '582 Patent Claims Inventive Concepts

This Court need not reach step two of the *Alice* analysis because the '582 Patent is not directed to an abstract idea. Regardless, the asserted claims of the '582 Patent are directed to an inventive concept that render them patent eligible. Specifically, the '582 Patent asserted claims are directed to parallelization of data processing tasks by partitioning input files, distributing descriptions of the partitions, and executing subtasks of the partitions to produce output that is

[3] American also implies that the lack of a specific "hardware structure or architecture" is fatal to the '582 claim. Not so. *See Enfish*, 822 F.3d at 1335 ("Software can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route[.]")

[4] The court also rejected the defendant's arguments that the "claimed computer components and the way they interact with each other are merely 'generic' and 'employed in the conventional manner'" where nothing in the record showed this to be the case, much as American's arguments regarding the supposed conventionality of the '582 patent claims is based on nothing in the specification or record. *See Altair Logix*, 2021 WL 6424910, at *5.

combined, improving on then-current technology by increasing the speed of execution of processes and balancing the loads of computer resources during execution. *See* Section III.E.1, *supra*.

At the outset, the improvements described in the specification and carried out by the limitations of the claims in and of themselves render the '582 Patent claims eligible under step two. *See CosmoKey Sols. GmbH & Co. KG v. Duo Sec. LLC*, 15 F.4th 1091, 1098-1099 (Fed. Cir. 2021) ("[S]pecification descriptions of how the claim limitations provide a technical improvement over conventional means will render a claim eligible at step two, just like at step one.").

Further, American's argument regarding the supposed lack of an inventive concept boils down to pure attorney assertion regarding "unknown and unclaimed processes." Mot. at 25. The case upon which American relies for this proposition involved a claim where the basis for the asserted technological innovation, a specific "system architecture," was not even recited in the claim. *Two-Way Media Ltd.*, 874 F.3d at 1338. Claim 1 presents the opposite case here—as explained above, the technological innovation and benefits are directly tied to the claim limitations.[5] *See supra* at III.E.1.

American also ignores that the '582 Patent itself explains how the performances of the ordered combination of the limitations of the claims results in a technological improvement and instead focuses on the supposed "conventional ordering of steps." Mot. at 25. American fails to provide any basis for its assertion that these steps were conventional—this is insufficient to merit dismissal under § 101. *See Ravgen, Inc. v. Natera, Inc.*, No. 1:20-CV-00692-ADA, 2024 WL 150960, at *2 (W.D. Tex. 2024) ("[A]side from attorney argument, [Defendant] does not cite any

[5] Additionally, American's eligibility argument veers close to or even crosses the bounds of an enablement challenge: "whether a patent specification teaches an ordinarily skilled artisan how to implement the claimed invention presents an enablement issue under 35 U.S.C. § 112, not an eligibility issue." *Visual Memory*, 867 F.3d at 1261.

evidence that the combination of the claimed elements was routine and conventional."). American's arguments regarding the "conventional" nature of the limitations or order combination of the claims suggest, at most, a fact dispute that cannot be resolved on the pleadings. *See Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1127 (Fed. Cir. 2018) ("Whether the claim elements or the claimed combination are well-understood, routine, conventional is a question of fact. And in this case, that question cannot be answered adversely to the patentee based on the sources properly considered on a motion to dismiss, such as the complaint, the patent, and materials subject to judicial notice."); *see also Cooperative Ent., Inc. v. Kollective Tech., Inc.*, 50 F.4th 127, 133 (Fed. Cir. 2022) ("[d]etermining whether the [invention] is well-understood, routine, or conventional is a question of fact that cannot be resolved at the Rule 12(b)(6) stage.").

F. The '785 Patent is Patentable Under 35 U.S.C. § 101.

The '785 Patent recites patentable subject matter under § 101 because its claims are not directed to an abstract idea, and it further recites an inventive concept. American's motion should further be denied because there are plausible factual disputes. *See Berkheimer v. HP, Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) ("The improvements in the specification, to the extent they are captured in the claims, create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities.").

1. The '785 Patent Is Not Abstract

The '785 Patent is directed to an invention that allows computing devices from anywhere in the world to access private networks and communicate with other devices on those networks using a virtual subnet with virtual addresses. Dkt. 1-4 ('785 Patent) at 5:48-60. Independent claim 30 recites as follows:

> 30. A virtual network manager, comprising:
>
> a network interface configured for data communication via a virtual network that is defined by a domain name having an associated public network address;
>
> a memory and a processor to implement a register module configured to register devices in a virtual network, the register module further configured to:
>
> > receive a registration request from an agent associated with a device;
> >
> > distribute a virtual network address to the device when the device is registered in the virtual network, the device being identified to other devices in the virtual network by the virtual network address; and
>
> a DNS server for the virtual network, the DNS server configured to receive a DNS request from a first device in the virtual network, and return a network address associated with a network route director, a private network address associated with a second device in the virtual network, and a virtual network address associated with the second device.

To summarize, claim 30 recites a virtual network manager with a network interface that allows for communication on a virtual network. That virtual network has a domain name and a public network address. Devices are registered to that virtual network and receive a virtual network address that identifies the registered devices to other devices on the network. The virtual network manager also has a DNS server, which provides devices on the virtual network with the virtual network addresses for other devices on the virtual network. *See id.* at 36:37-56.

The claimed invention provides clear benefits over prior implementations, as the specification makes clear. Prior implementations, for example, did not allow communication between a private network host and a host with a public IP address, or communication from a host outside the private network directed to a host in the private network with a private address. *Id*. at 2:19-25. The specification explains that this problem requires a solution that "provides for local

and remote entities to communicate and collaborate using the Internet, can work with existing NAT devices and firewalls, and allows for devices to move to different physical networks." *Id.* at 2:45-54. This is exactly what the claimed invention addresses: it allows local and remote entities to communicate, using a virtual subnet, that might otherwise be unable to communicate with each other. *See id.* at 5:48-60. Such claims that solve problems unique to virtual networks have been found patent-eligible by the Federal Circuit. *See TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1296 (Fed. Cir. 2020) (finding patent eligible a patent directed to multiple users and locations accessing information at different security levels); *Packet Intel. LLC v. NetScout Sys., Inc.*, 965 F.3d 1299, 1309 (Fed. Cir. 2020) (finding patent eligible a patent directed to identifying and associating disconnected network streams). The asserted claims of the '785 Patent further provide a benefit to certain applications to enable applications to communicate over the improved networks. *See, e.g.*, Dkt. 1-4 ('785 Patent) at 14:23-29 ("Examples of applications that can communicate on the VCN include instant messaging, email, FTP, browsers, data transfer programs, and other applications that can communicate.").

American's assertion that the file history of the '785 Patent shows that the claims could be performed in the human mind because a limitation reciting the language "computer-implemented" was added in a claim amendment is specious. Mot. at 28. The claim language already included references to network managers, virtual network addresses, and domain names—clear references to computer networking. Mot., Exhibit 2 at 23 (amended claim 64). The idea that the mere addition of "computer-implemented" to the claim language somehow equals a concession that the entire claim can be performed by the human mind is entirely unsupported by the claim language itself, case law, or, indeed, common sense. Nor does American explain how the file history, which American takes great pains to point out dates from before *Alice*, shows that the claims were not

directed to any improvement in computer capabilities. *Id.* at 28. After all, that was not, as American itself notes, the test that a patent examiner applied at the time. *Id.* at 27. Further, the amendment American emphasizes is specific to the claim that issued as claim 48, *which IV has not asserted in this litigation*. American makes no argument that that particular amendment is relevant to any of the other independent claims, and in particular asserted claim 30 (and indeed, it is not). Regardless, this Court is not bound by the reasoning of the Patent Office, and it need not give any weight to its patent eligibility determinations, particularly when, as shown above, the claimed invention is directed to patent-eligible subject matter under the *Alice* framework. *See Aviation Cap. Partners, LLC v. SH Advisors, LLC*, No. CV 22-1556-RGA, 2023 WL 5333187, at *4 (D. Del. Aug. 18, 2023) (giving "no weight to the Patent Office's overall determination" on patent eligibility).

2. The '785 Patent Claims Inventive Concepts

This Court need not reach step two of the *Alice* analysis because the '785 Patent claims are directed to patent-eligible subject matter. Even assuming *arguendo* that they are directed to an abstract idea, the claims nevertheless recite an inventive concept that suffices under *Alice*. Specifically, asserted claim 30 recites a virtual network manager with a network interface that allows for communication on a virtual network with a domain name and a public network address and a DNS server that provides devices on the virtual network with the virtual network addresses for other devices on the virtual network. *See* Section III.F.1, *supra*. This is especially true here where the claims capture the improvement and benefit described in the specification. *Id.*

American points to the various supposedly "conventional" and generic computing devices that are used to "execute non-statutory subject matter." Mot. at 29. American provides no authority for this bare attorney argument (*see Ravgen*, 2024 WL 150960, at *2), but even if it had, its argument misses the mark. The Federal Circuit has been clear that even conventional components can provide an inventive concept. *See Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*,

827 F.3d 1341, 1350 (Fed. Cir. 2016) ("an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces").

American ignores that, in fact, a specific benefit of the claimed invention is that it could be implemented using then-current protocols and components. As the specification explains, "[t]o increase the ability of such a system to be accepted by the Internet community, it is desirable for such a system to *not require changes to existing applications*, allow peer-to-peer applications to communicate directly across the Internet and to *not require changes to existing protocols*." Dkt. 1-4 ('785 Patent) at 2:45-54. Thus, even if, contrary to the facts and law, the '785 claims were directed to an abstract idea, this is the epitome of an ordered combination transforming claims into a patent-eligible application that provides clear technical improvements over prior implementations. *See CosmoKey*, 15 F.4th at 1098-1099 (claim limitations that provide technical improvements suffice under *Alice* step two).

Further, there is, at a minimum, a factual dispute as to whether the '785 Patent claims are conventional, an issue which cannot be resolved on the pleadings. *See Aatrix Software and Cooperative Ent'mt*, *supra*; *see also Berkheimer*, *supra*.

IV. CONCLUSION

For the foregoing reasons, American's Motion should be denied in its entirety.[6]

[6] To the extent the Court determines that IV has failed to sufficiently plead plausibility, IV respectfully requests leave to amend its complaint. *See U.S. v. Bros. Enterprises, Inc.*, No. 1:13-CV-17, 2013 WL 11331166, at *2 (E.D. Tex. Nov. 25, 2013) (allowing pleadings to be amended when permitted by scheduling order); *see also Olink Proteomics AB et al. v. Alamar Biosciences, Inc.*, No. 23-1303-MN, 2025 WL 275604, at *10 (D. Del. Jan. 23, 2025) (noting leave to amend should be freely permitted when it is possible for a plaintiff to plead missing allegations).

Dated: March 19, 2025

RESPECTFULLY SUBMITTED,

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing document was served on all parties who have appeared in this case on March 19, 2025, via the Court's CM/ECF system.

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